PENKIN, N.P.; SHABANOVA, L.N.

Serial regularities in some atomic spectra. Opt. i spektr. 18 no.6:941-946 Je '65. (MIRA 18:12)

L 24273-66 EWT(l)/EWT(m)/EPF(n)-2/EWP(t) IJP(c) JD/WW/JG

ACC NR: AP6006993 SOURCE CODE: UR/0051/66/020/002/0197/0208

AUTHORS: Penkin, N. P.; Redko, T. P.

ORG: none

TITLE: Investigation of the positive column of a discharge in cadmium vapor and determination of the effective cross sections of the 6^3S_1 level

SOURCE: Optika i spektroskopiya, v. 20, no. 2, 1966, 197-208

TOPIC TAGS: cadmium, nuclear energy level, discharge plasma, positive column, plasma electron temperature, electron distribution, electron density, electric discharge ionization

ABSTRACT: The populations of the $5^6P_{0, 1, 2}$, 5^1P_1, and 6^3S_1 levels of the cadmium atom were investigated in the positive column of a discharge in the pressure range (1 -- 8) x 10^{-2} mm Hg and at discharge currents from 50 to 200 mA. The dependence of the population of

Card 1/3 UDC: 539.182.2 + 537.523/.527:546.48

these levels on the discharge conditions were studied by different optical methods (Rozhdestvenskiy hook method, spectral line reversal, and emission). The electron temperature and the electron density in the plasma were determined by a method using probes, as well as the electron energy distribution. At a cadmium vapor pressure $\leq 10 \times 3^{-2}$ mm Hg and a current ≤ 0.2 A/cm^2 the discharge was not in equilibrium, and the populations of the levels were much lower than the Boltzmann population. At the same pressure, the electrons have a Maxwellian energy distribution, with the usual variation of the electron density and electron temperature with the discharge current at constant pressure. A stepwise excitation, involving transitions from $5^3P_{0,\ 1,2}$ levels plays a large role in the excitation of both the singlet and triplet cadmium-atom levels. The ionization of the cadmium atoms occurs mainly by a stepwise process. The saturation of the plot of the population of the levels against the discharge current is due to the stepwise excitation and the ionization. The effective cross sections for the direct and stepwise excitations of the 6^3S_1 levels by electron collisions were determined accurate to 50%

L 24273-66
ACC NR: AP6006993

and the stepwise cross section was approximately 1-1/2 orders of magnitude higher than the direct-excitation cross section, the corresponding values being 5×10^{-18} and 2×10^{-16} cm^2. Orig. art. has: 13 figures, 8 formulas, and 3 tables.

SUB CODE: 20/ SUBM DATE: 07Jul64/ ORIG REF: 012/ OTH REF: 004

Card 3/3dda

ACC NR: AP7002421 SOURCE CODE: UR/0051/66/021/006/0749/0750

AUTHOR: Mazing, M. A.; Penkin, N. P.

ORG: none

TITLE: On the absolute value of the oscillator strength of a resonant transition in a sodium atom

SOURCE: Optika i spektroskopiya, v. 21, no. 6, 1966, 749-750

TOPIC TAGS: sodium, optic transition, oscillator strength, resonance line, line broadening

ABSTRACT: This is a continuation of earlier work (Opt i spektr. v. 11, 3, 1961), where the value obtained for the oscillator strength (1.15) was calculated without allowance for certain phenomena. In the present communication the authors recalculate this quantity with allowance for the resonance broadening and for the insufficient optical thickness of the layer used in the earlier experiment. The results give a lower value for the oscillator strength (1.03), and indicate that it cannot exceed 1.05 at any rate. This brings it closer to the value obtained elsewhere for potassium (1.04). Orig. art. has: 1 figure and 2 formulas.

SUB CODE: 20/ SUBM DATE: 06Jul64/ ORIG REF: 004/ OTH REF: 006

Card 1/1 UDC: 539.184:546.33

L 6851h-65 EPF(c)/EWP(l)/EWT(m)/EWP(i)/EWP(b)/T/EWP(e)/EWP(t) IJP(c) WH/WN/

ACCESSION NR: AP5012899

AUTHOR: Pen'kin, N. P.; Shabanova, L. N.

SOURCE: Optika i spektroskopiya, v. 18, no. 5, 1965, 779-799

TOPIC TAGS: aluminum, gallium, indium, thallium, absorption spectrum, spectral line, optic transition, ionization potential

ABSTRACT: In view of the lack of published data on the lines Al-I, Ga-I, In-I, and Tl-I, which lie near the limits of the series, the authors investigated the absorption spectra of these substances in the 2300--2000 Å region. An absorbing column of vapor was produced in a high temperature vacuum oven, the heating element of which was a graphite tube. Pieces of the investigated metal were placed in the central part of the graphite tube. Discharge in deuterium served as the source of [illegible]. All [illegible] spectral lines of Al-I, [illegible] lines of Ga-I, [illegible] lines of In-I, and [illegible] lines of Tl-I, were reclassified and the [illegible] transitions were accurate values of the ionization potentials were [illegible] and it was [illegible] that the [illegible] terms of Ga-I, [illegible]

Card 1/2

L 6h514-65

ACCESSION NR: AP5012599

Ga-I, In-I, and Tl-I which lie near the limits of the series can be satisfactorily described by the Ritz formula. Orig. art. has: 7 figures, 3 formulas, and 3 tables.

ASSOCIATION: none

SUBMITTED: 22Apr64 ENCL: 00 SUB CODE: OP

NR REF SOV: 001 OTHER: 005

Card 2/2

L 2831-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b) LJP(c) JD

ACCESSION NR: AP5016164 UR/0051/65/018/006/0941/0946

539.184:535.33

AUTHORS: Penkin, N. P.; Shabanova, L. N.

TITLE: On the laws governing the spectral series of some atoms

SOURCE: Optika i spektroskopiya, v. 18, no. 6, 1965, 941-946

TOPIC TAGS: spectral energy distribution, optic spectrum, spectrum analysis, transition probability, quantum theory

ABSTRACT: To check on the applicability of the Ritz rule to series for which a nonmonotonic variation of the transition probability was obtained, the authors investigated the dependence of the quantum defect on the absolute value of the energy level for the $msnp\,^1P^0_1$ levels of Mg-I, Ca-I, Sr-I, and Ba-I as well as for the $ns^2S_{1/2}$, and $nd^2D_{3/2,\ 5/2}$ levels of Al-I, Ga-I, In-I, and Tl-I. The required data was either taken from the literature or obtained from

Card 1/2

L 2811-66

ACCESSION NR: AP5016164

the authors' own measurements of the absorption wavelengths of Al-I, Ga-I, In-I, and Tl-I near the limits of the series of these atoms (Opt. i spektr. v. 18, 941, 1965). The results showed that a nonmonotonic variation of the transition probability in these series corresponds to a nonmonotonic or strong variation of the quantum defect. This nonmonotonic variation of the transition probability is attributed to the superposition of configurations, although it is pointed out that a final confirmation of this hypothesis calls for a detailed quantum-mechanical calculation of the energy levels and of the transition probabilities. Orig. art. has: 6 figures and 2 formulas.

ASSOCIATION: None

SUBMITTED: 22Apr64 ENCL: 00 SUB CODE: OP

NR REF SOV: 005 OTHER: 004

BVK

Card 2/2

L 52325-65 EWT(m)/EWP(h)/EWP(t) IJP(c) JD

ACCESSION NR: AP5012624 UR/0051/65/018/005/0896/0899

17
B

AUTHOR: Penkin, N. P.; Shabanova, L. N.

TITLE: Oscillator strengths of the spectral lines of Al I and Ga I

SOURCE: Optika i spektroskopiya, v. 18, no. 5, 1965, 896-899

TOPIC TAGS: oscillator strength, aluminum, gallium, spectral line, hook method, continuous spectrum

27 27

ABSTRACT: This supplements an earlier investigation (Opt. i spektr. v. 14, 12, 1963) in which the oscillator strengths of the spectral lines of Al I and Ga I were measured by the hook method. Since the source used earlier did not make it possible to photograph the hooks near the lines with wavelengths shorter than 2204 Å the authors have employed in the present investigation a deuterium charge as a continuous spectrum source (Opt. i spektr. v. 15, 828, 1963) and succeeded in photographing the hooks at lower wavelengths. The results of the measurements are tabulated for the $3p^2P^0$ transitions in aluminum and $4p^2P^0$ transitions in gallium.

Card 1/2

L 52325-65

ACCESSION NR: AP5012624

Plots of the transition probabilities in the diffusion series ($3p^2P^0_{1/2}$—$md^2D_{3/2}$) of Al I and in the sharp series ($np^2P^0_{1/2}$—$ms^2S_{1/2}$) of Al I and Ga I are presented. These show that at large values of m the probabilities decrease according to $1/m^3$. Errors of the earlier investigations are corrected in the tabulated results. Orig. art. has: 2 figures and 1 table. [02]

ASSOCIATION: none

SUBMITTED: 16May64 ENCL: 00 SUB CODE: OP

NO REF SOV: 002 OTHER: 000 ATD PRESS: 4009

Card 2/2 mB

PENKIN, N.P.; SLAVENAS, I.Yu.Yu.

Oscillator forces of SnI and PbI spectral lines. Opt. i spekt. 15 no.2:154-165 Ag '63. (MIRA 17:1)

ROZHDESTVENSKIY, Dmitriy Sergeyevich, akademik; LINNIK, V.P., akademik, red.; LEBEDEV, A.A., akademik, red.; TUDOROVSKIY, A.I., red.[deceased]; FRISH, S.E., red.; LUIZOV, A.V., doktor fiz.-mat. nauk, red.; RAUTIAN, G.N., doktor tekhn. nauk, red.[deceased]; PENKIN, N.P., doktor fiz-mat. nauk, red.; KIRIKOVA, G.L., red.izd-va; SOROKINA, V.A., tekhn. red.

[Selected works] Izbrannye trudy. Moskva, Izd-vo "Nauka," 1964. 348 p. (MIRA 17:4)

1. Chlen-korrespondent AN SSSR (for Tudorovskiy, Frish, Luizov, Rautian, Penkin).

PENKIN, N.P.; SLAVENAS, I.-Yu.Yu.

Absolute values of the oscillator forces of the resonance doublets AgI and AuI. Opt. i spektr. 15 no.1:9-12 Jl '63. (MIRA 16:8)

(Interferometry)

L 17152-63 EWP(q)/EWT(m)/BDS AFFTC JD

ACCESSION NR: AP3005835 S/0051/63/015/002/0154/0165

55

AUTHOR: Penkin, N. P.; Slavenas, I. Yu. Yu.

TITLE: Oscillator strengths of spectral lines of tin and lead atoms

SOURCE: Optika i spektroskopiya, v. 15, no. 2, 1963, 154-165

TOPIC TAGS: f value, oscillator strength, relative f value, absolute oscillator strength, hook method, Rozhdestvenskiy method, anomalous dispersion method, lead atom f value, tin atom f value, anomalous dispersion, lead iodide, tin iodide, absolute f value, relative oscillator strength

ABSTRACT: Absolute oscillator strengths were measured by the anomalous dispersion method for the resonance lines of SnI (f_{2863} = 0.230 ± 0.005) and PbI (f_{2833} = 0.212 ± 0.003). Relative f-values due to p^2 - ps and p^2 - pd transitions were also obtained for 29 lines of SnI and 17 lines of PbI. The relative f-values were converted to absolute values using Nesmeyanov's formulas for vapor pressures of Sn and Pb at saturation. It was found that the highest f-values are due to p^2 - pd transitions. The relative line strengths for

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L 17152-63

ACCESSION NR: AP3005835

the p^2 - ps transition array in PbI and SnI determined by the authors from the experimental f-values were compared with available theoretical data. It was found that the experimental line strengths for SnI are in good agreement with the theoretical values calculated in jj coupling. In the case of PbI the experimental line strengths differ considerably from theoretical values for both jj and LS coupling. A considerable deviation from the sum rules for lead indicates the presence of configurational interaction between lead atoms. Orig. art. has: 7 figures, 5 tables, and 4 formulas.

ASSOCIATION: none

SUBMITTED: 13Nov62 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 008 OTHER: 009

Card 2/2

PENKIN, N.P.; SHABANOVA, L.N.

Oscillator forces in the spectral lines of aluminum, gallium, and indium atoms. Opt. i spektr. 14 no.1:12-17 Ja '63. (MIRA 16:5)
(Aluminum—Spectra) (Gallium—Spectra) (Indium—Spectra)

FENKIN, N.P.; SHABANOVA, L.N.

Oscillator forces of Tl I spectral lines. Opt. i spektr. 14 no.1: 167-169 Ja '63. (MIRA 16:5)
(Thallium—Spectra) (Quantum electronics)

L 10812-63

ACCESSION NR: AP3003403 S/0051/63/015/001/0009/0012

AUTHOR: Penkin, N. P.; Slavenas, I-Yu. Yu. 44

TITLE: Absolute f-values for resonance doublets of AgI and AuI

SOURCE: Optika i spektroskopiya, v. 15, no. 1, 1963, 9-12

TOPIC TAGS: f-values, oscillator strengths, absolute f-values, anomalous dispersion, Rozhdestvenskiy hook method, resonance doublets, Ag, Au

ABSTRACT: The anamalous dispersion, or "Rozhdestvenskiy hook," method was used to determine the absolute f-values for resonance doublets of AgI and AuI. The concentrations of absorbing atoms of Ag and Au were calculated using formulas derived by A. N. Nesmeyanov. For AgI, f_{3382} and f_{3280} were found to be 0.247 ± 0.004 and 0.506 ± 0.004, respectively; for AuI, f_{2675} and f_{2427} were determined to be 0.19 ± 0.02 and 0.41 ± 0.03. It was established that the sums of the f-values and the f-values for the resonance doublets of the principal series of group I elements with $(n-1)d^{10}ns$ electronic configuration decrease with

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L 10812-63
ACCESSION NR: AP3003403

0

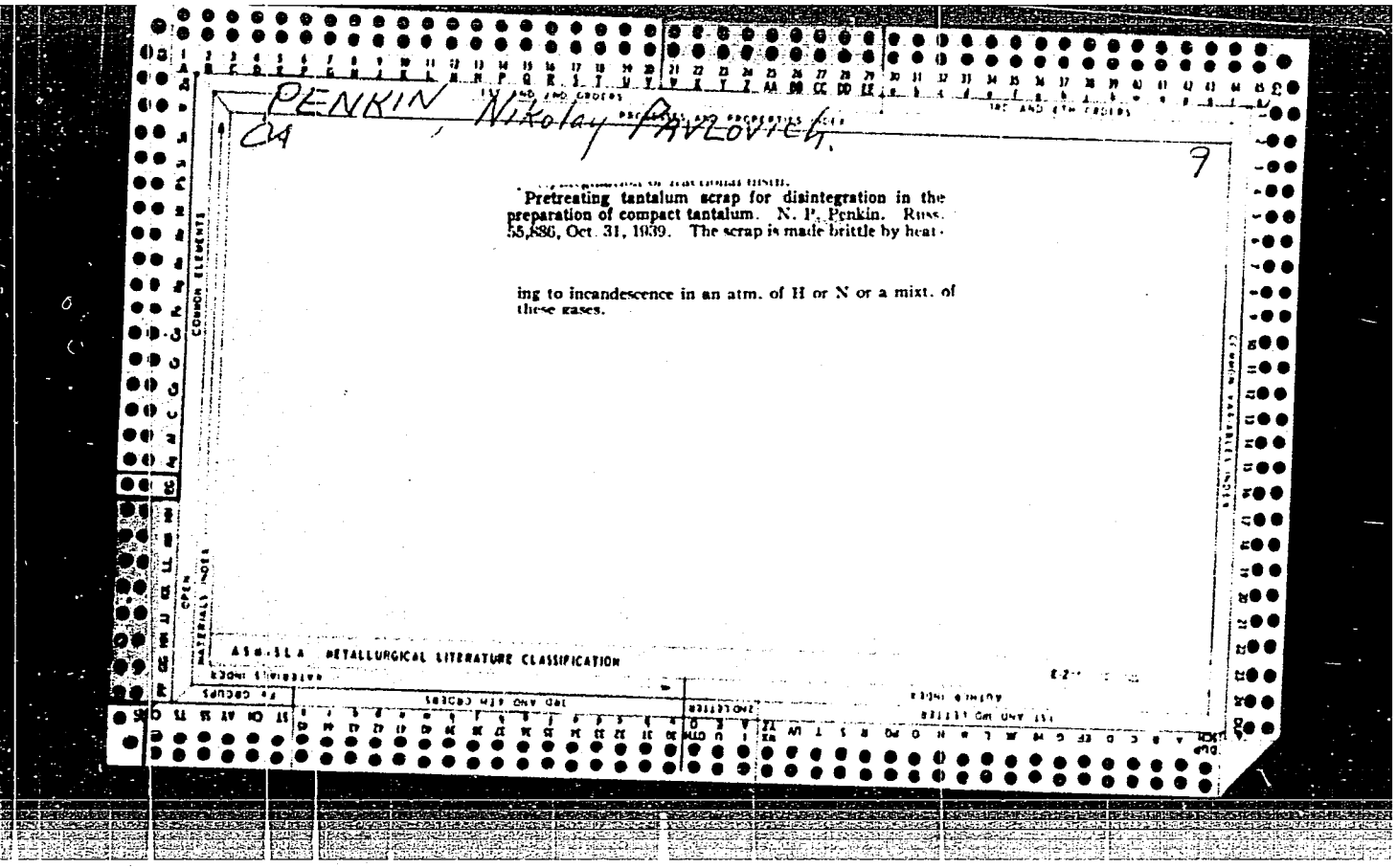
increasing atomic number Z of the elements. Theoretically calculated f-values differed by less than 30% from the experimental values, but were independent of Z. The ratios of the line strengths of the resonance doublet components were found to be close to the theoretical value, 2. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 13Nov62 DATE ACQ: 30Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 005 OTHER: 005

lm/ws
Card 2/2



PENKIN, Nikolay Pavlovich

CA

9

Pretreating tantalum scrap for disintegration in the preparation of compact tantalum. N. P. Penkin. Russ. 55,586, Oct. 31, 1939. The scrap is made brittle by heating to incandescence in an atm. of H or N or a mixt. of these gases.

A59-51A METALLURGICAL LITERATURE CLASSIFICATION

MARUSHKO, F.I.; STAROSTINA, N.V.; PENKIN, N.T., kandidat tekhnicheskikh nauk, redaktor; SADOV, I.Ya., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor.

[Central dispatching systems] Dispetcherskaia tsentralizatsiia. Moskva, Gos. transp. zhel-dor. izd-vo, 1953. 254 p. [Microfilm] (Railroads--Train dispatching) (MLRA 7:11)

PENKIN, N.T.

Topography of the neurovascular formations of the spermatic cord.
Trudy KirgNOAGE no.2:168-171 '65.

(MIRA 18:11)

1. Iz kafedry normal'noy anatomii (zav. prof. N.N.Lavrov) Kirgizskogo gosudarstvennogo meditsinskogo instituta.

LESSINA, I.Ye.; PENKINA, N.V.

Optical properties of diluted rhodium-platinum solid solutions. Fiz. met. i metalloved. 13 no.5:799-800 My '62. (MIRA 15:6)

1. Institut metallurgii AN SSSR.
(Rhodium-platinum alloys--Optical properties)

GUROV, K.P.; LEKSINA, I.Ye.; PENKINA, N.V.

Calculation of electron characteristics of metals. *Trudy Inst. met.* no.15:65-74 '63. (MIRA 16:9)
(Metal crystals) (Electrons)

LEKSINA, I.Ye.; PENKINA, N.V.

Optical properties of diluted solid solutions palladium - silver and rhodium - platinum. Trudy Inst. met. no.15:58-64 '63. (MIRA 16:9)

(Palladium-silver alloys--Optical properties)
(Rhodium-platinum alloys--Optical properties)

43381
S/056/62/043/005/050/058
B125/B104

24.7000

AUTHORS: Gurov, K. P., Leksina, I. Ye., Penkina, N. V.

TITLE: Calculation of the electron characteristics of metals using the data from measurement of their optical constants

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5 (11), 1962, 1957-1963

TEXT: A method is proposed for calculating the "microproperties" (mean velocity on the Fermi surface, effective mass of the electrons, electron-phonon collision frequencies) of metals caused by electrons using the measurements of the refractive indices and of the absorption coefficients of pure metals. It is assumed that the excitation of the electron system of metals during heat absorption, thermal conduction, electric conduction, excitation by radiation etc. can be described in approximation of the isotropic effective mass. From theoretical calculations of the electron structures

$$v_F = \sqrt{3N_{эфф}/mg(E_F)} = 10^{-14}\sqrt{N_{эфф}/3g(E_F)} \qquad (11)$$

Card 1/3

Calculation of the electron ...

is obtained for the velocity on the Fermi surface. $N_{eff} = g(E_F)mv_F^2/3$ is the effective electron number per unit volume. Considering that $E = mv^2/2$, the effective mass is given by $m^* = \pi\sqrt[3]{\hbar^3 g(E_F)v_F} = 6.18\cdot10^{-27}\sqrt[3]{N_{eff}/v_F^3}$. If n bands contribute to these effects, then also the weighted mean microcharacteristics must be introduced. The weighted mean square velocity on the Fermi surface is

$$\overline{v_F^2} = \sum_{i=1}^{n} g_i(E_{iF})v_{iF}^2 \Big/ \sum_{i=1}^{n} g_i(E_{iF}) = \sum_{i=1}^{n} g_i(E_{iF})\, v_{iF}^2 / g(E_F), \qquad (16),$$

where $g(E_f)$ is the total density of states on the Fermi surface. Further, $N_{eff} = g(E_f)mv_F^2/3$ holds (17). The average effective mass is $\bar{m}^* = 6.18\cdot10^{-27}\,(N_{eff}/\bar{v}_F^3)^{1/2}$. The collision frequency is

$$\nu_{ef} = \frac{9{,}0a^6\pi^2T\Theta^2(E_F)^2}{Mu^4}\left\{1+\frac{1}{24}\left(\frac{\Theta}{T}\right)^2\right\}. \qquad (36),$$

Card 2/3

Calculation of the electron ...

where $\bar{E}_F = \bar{m}^* v_F^2/2$. θ is the Debye temperature, u the velocity of sound, $a = m^*/m$. The microcharacteristics of α-Fe, Pd, Al, and Cu were calculated by means of N_{eff}, which was determined from the metal-optical data by using already published data. With Pd and Fe the d-sub-bands contribute greatly to the effect investigated. The large effective masses of the quasiparticles that correspond to these sub-bands prevail in the weighted mean values found. Results determined from the specific heats agree well with those calculated by the above method. A main advantage of this method of estimating is that the microcharacteristics of different metals can be compared. There is 1 table.

ASSOCIATION: Institut Metallurgii im. A. A. Baykova (Institute of Metallurgy imeni A. A. Baykov)

SUBMITTED: June 25, 1961

Card 3/3

ROSINSKIY, N.L.; YALOVAYA, N.D.; PENKIN, P.I.

New methane explosionproof electric detonator. Trudy MakNII 10:232-235 '60. (MIRA 15:10)
(Blasting—Equipment and supplies)

ROSINSKIY, N.L., kand.tekhn.nauk; YALOVAYA, N.D., inzh.; PENKIN, P.I., inzh.

Electric detonator not igniting methane-air mixture. Bezop. truda v prom. 3 no.10:30-31 O '59. (MIRA 13:2)

1. Makeyevskiy nauchno-issledovatel'skiy institut po bezopasnosti rabot v gornoy promyshlennosti.
(Detonators)

PENKIN, S.

Multiloop Blowoff appliances for steam boilers. Sel'. stroi. 11 no.4:24 '56 [i.e. '57]. (MLRA 10:6)

1. Nachal'nik Proizvodstvenno-tekhnicheskogo otdeleniya tresta "Santekhmontazh-64".

(Boilers--Safety appliances)

PENYIN, S..., tekhnik.

Multiloop blowout water seal device for low pressure steam boilers.
Energetik 5 no.6:10-11 Je '57. (MIRA 10:7)
(Boilers)

PENKIN, S.

Stoppers for testing pipes. Sel'. stroi. no.9:17 S '62.

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela tresta Dal'santekhmontazh.

(Pipe—Testing)

PENKIN, S.I. (Khabarovsk)

Device for cutting in branch pipes. Vod.i san.tekh. no.11:29 N '62. (MIRA 15:12)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdeleniya tresta Dal'santekhmontazh.
(Pipe fitting—Equipment and supplies)

PENKIN, S.

Two suggestions for safety engineering. Zhil.-kom.khoz. 12 no.6:12 Je '62. (MIRA 15:12)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela tresta "Dal'santekhmontazh", Khabarovsk.
(Safety appliances)

PENKIN, S.

Use of cast-iron sectional boilers without face sections. Sel'. stroi. 16 no.1:12 Ja '62. (MIRA 16:1)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela tresta "Santekhmontazh-64".

(Boilers)

FENKIN, S.

Raising the technical level of sanitary engineering operations.
Na stroi.Ros. 4 no.6:17-18 Je '63. (MIRA 16:6)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdeleniya tresta Dal'santekhmontazh.
(Sanitary engineering)

PENKIN, S.

Safety valve for steam boilers. Sel'.stroi. 15 no.1 supplement p.3-4 Ja '61. (MIRA 14:3)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela tresta "Santekhmontazh."
(Boilers--Safety appliances)

PENKIN, S.I., tekhnik

Device for clamping flanges to branch pipes. Energetik 10 no.3:18 Mr '62. (MIRA 15:2)
(Pipelines---Welding)

PENKIN, S.I., inzh.

Manufacture of spiral coils on the VMS-92 flanging machine. Mont. i spets. rab. v stroi. 24 no.5:27 My '62. (MIRA 15:5)
(Pipe bending)

PENKIN, S.I.

Device for tack welding flanges to connecting pipes. Vod. i san. tekh. no.1:39 Ja '62. (MIRA 15:6)
(Pipe--Welding)

PENKIN, S.I.

Device for facing sleeves and removing bevel edges. Vod. i san. tekh. no.7:27 Jl '62. (MIRA 15:9)
(Pipe fittings)

PENKIN, S.I., inzh.

Suggestions made by efficiency promoters of the Far Eastern Sanitary Engineering Assembly Trust. Mont. i spets. rab. v stroi. 24 no.2:27-28 F '62. (MIRA 15:6)
(Tools)

PENKIN, S.I., tekhnik

Gravity return of condensate to the steam boiler. Energetik 10 no.7: 10-11 Jl '62. (MIRA 15:7)
(Boilers)

PENKIN, S.I., inzh.

Device for stretching П-shaped expansion pieces. Mont. i spets. rab. v stroi. 23 no.4:28 Ap '61. (MIRA 14:5)

1. Trest Santekhmontazh - 64.
(Pipe fittings)

PENKIN, S.I.

Device for fitting branch pipes into operating pipelines. Stroi. truboprov. 7 no.5:21 My '62. (MIRA 16:6)

1. Trest Dal'santekhmontazh, Khabarovsk.
(Pipe fitting)

PENKIN, S.I., inzh.

Use of the VMS-92 machine for bending flanges with small diameter and spiral pipes. Energetik 11 no.5:19-21 My '63. (MIRA 16:7)
(Pipe fitting) (Pipe bending)

PENKIN, S.I. (Khabarovsk)

Installation of brackets for radiators and fastenings of sanitary devices on wall slabs. Vod.i san.tekh. no.4:36 Ap '63.
(MIRA 16:4)
(Concrete slabs)

PENKIN, S.I. (Khabarovsk)

Gravity-flow return of condensates into steam boilers. Vod. i san. tekh. no. 4:39 Ap '61. (MIRA 14:4)
(Boilers)

PENKIN, S.

Construction of the simplest water-heating boiler and stone stove for a bath house. Sel'. stroi. 15 no. 2:1-4 F '61. (MIRA 14:5)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela Khabarovskogo tresta "Santekhmontazh."

(Baths, Russian)

PENKIN, S.

Returning condensed water into steam boilers by force of gravity. Sel'. stroi. 16 no.6:27 Je '61. (MIRA 14:7)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela tresta Santekhmontazh.
(Boilers)

PENKIN, S.I. (Khabarovsk)

Use of cast-iron sectional boilers when face sections break down.
Vod.i san.tekh. no.3:30-31 Mr '62. (MIRA 15:8)
(Boilers--Maintenance and repair)

PENKIN, S.I.

Devices for carrying on sanitary engineering operations. Mont. i spets. rab. v stroi. 23 no.11:28-31 N '61. (MIRA 16:7)

1. Trest Dal'santekhmontazh.
(Pipefittings)

PENKIN, S.I., tekhnik

Use of cast-iron boilers without front sections. Energetik 9 no.7:16-17 Jl '61. (MIRA 14:9)
(Boilers)

PEMKIN, S.I. (Khabarovsk)

Using sleeveless connections in the plumbing of heating systems. Vod.i san.tekh. no.8:33-34 Ag '59. (MIRA 12:11)
(Pipe fitting)

PENKIN, S.I. (Khabarovsk)

Device for the extension of channel-section compensators.
Vod. i san. tekh. no.10:40 '59. (MIRA 13:1)
(Pipe fitting)

PENKIN, S.I., tekhnik.

Shut-off valve for air. Energetik 7 no.2:15-16 F '59.
(MIRA 12:1)
(Valves)

25(2) SOV/91-59-6-11/33

AUTHOR: Penkin, S.I., Technician

TITLE: A Device for Stretching П -Shaped Compensators

PERIODICAL: Energetik, 1959, Nr 6, pp 15-16 (USSR)

ABSTRACT: The author describes his invention accepted for the assembly lines of enterprises of the trust "Santekh-montazh - 64", which has ensured good quality of stretching the pipe members of a pipeline and reduced labor requirements 3-4 times. The way of placing the pipes to be stretched is shown in Figure 2. The device consists of two yokes with swivel joints, made of strip steel, which are mounted on the ends of the pipe and fixed there with screws and operated by a lever. Between the pipe ends there must be a gap „l" equal to ½ of the compensating ability of the П -shaped

Card 1/2

A Device for Stretching П-Shaped Compensators SOV/91-59-6-11/33

compensator. In order to preclude the sliding of the yokes off the ends of the pipes during the stretching operation, the latter may be provided with welded-on beadings. There are 2 sets of diagrams.

Card 2/2

AUTHOR: Penkin, S. I., Technician SOV/91-59-2-10/33

TITLE: Air Shut-Off Valve (Vozdukhozapornyy klapan)

PERIODICAL: Energetik, 1959, Nr 2, pp 15 - 16 (USSR)

ABSTRACT: The article describes a new model of air shut-off valve constructed by the Chief Power Engineer's Section of the Primorskiy Council of National Economy (Sovnarkhoz) as a replacement for the old shut-off valve which, after a short while, used to lose its airtightness. The new valve showed good results and was introduced throughout the plant, whenever compressed air was used for one or another purpose. There is one diagram.

Card 1/1

PENKIN, S.I. (Khabarovsk)

Multibend ejector safety device for low-pressure steam boilers.
Ved.i san. tekh. no.9:32-33 S '56. (MLRA 9:10)
(Boilers--Safety appliances)

PENKIN, S. I., tekhnik

Savety valves for low-pressure boilers. Energetik 8 no.8:14-15 Ag '60. (MIRA 13:10)

(Boilers--Safety appliances)

PEHKIN, S.I.

Safety valve for low-pressure steam boilers. Mont.i spets.rab.v stroi. 22 no.10:27-28 O '60. (MIRA 13:9)

1. Trest Santekhmontazh-64.
(Boilers--Safety appliances)

PENKIN, S. N.

USSR/ Engineering - Machine construction

Card 1/1 Pub. 128 - 29/35

Author : Penkin, S. N.

Title : On the technological aspects of machines from the viewpoint of repair work

Periodical : Vest. mash. 35/3, 84 - 85, Mar 1955

Abstract : The use of bushings that are not concentric is discussed from the viewpoint of overhaul. It is pointed out that whereas in a machine as originally put out by a factory a wheel with an excentric bushing may be properly centered as a whole, when the bushing is removed during overhaul and replaced by another it is extremely difficult to avoid wobbling. Illustrations.

Institution : .....

Submitted : .....

PENKIN, V.

Power of cooperative efforts. Izobr. i rats. no.8:22 Ag '59.
(MIRA 13:1)

1.Predsedatel' zavodskogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov Yaroslavskogo motornogo zavoda.
(Yaroslavl--Efficiency, Industrial)

PEKIN, V.

We raise the level of production. Stroi. mat. 2 no.11: 9 N '56. (MLRA 10:2)

1. Nachal'nik proizvodstvennogo tsekha Leningradskogo tsementnogo zavoda im. Vorovskogo.
(Leningrad--Cement industries)

RAZGULOV, Yu.N.; PENKIN, V.I.

Type S-618 horizontal two-tube vibrating conveyor. TSement 28 no.4:21-22 Jl-Ag '62. (MIRA 15:7)

1. Opytnyy zavod Gosudarstvennogo instituta proyektirovaniya predpriyatiy i po nauchno-issledovatel'skim rabotam tsementnoy promyshlennosti.

(Conveying machinery)
(Cement plants)

PLETNEV, G.P., kand. tekhn. nauk; SKREBUSHEVSKIY, B.S., inzh.; PENKIN, V.N., inzh.

Experimental dynamic characteristics of the regulated sectors of TP-80 boiler and VPT-50 turbine units. Teploenergetika 12 no.7:90-92 Jl '65. (MIRA 18:7)

1. Moskovskiy energeticheskiy institut i Moskovskoye rayonnoye upravleniye energeticheskogo khozyaystva.

GUSHCHIN, M.I., starshiy elektromekhanik; PENKIN, V.P., starshiy elektromekhanik

Air vents. Avtom., telem.i sviaz' 6 no.8:40 Ag '62. (MIRA 15:8)

(Railroads—Electronic equipment)

PENKIN, V.V.

Remarks on the construction of discs. Avtom., telem. i sviaz' 2 no.3:28 Mr '58. (MIRA 13:1)

1.Starshiy elektromekhanik Grodnenskoy distantsii signalizatsii i svyazi Belorusskoy dorogi.
(Railroads--Signaling)

BOCHAROV, V. G.; PENKINA, A. F.

Spectral methods of comparing the optically bleaching substances. Zav. lab. 28 no.12:1454-1456 '62. (MIRA 16:1)

1. Institut organicheskikh poluproduktov i krasiteley.

(Bleaching materials—Spectra)

PENKINA, G.Ya.

Experimental use of the normative cost index for building and assembly. Stroi. truboprov. 9 no.8:30-31 Ag '64.
(MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.

66301

SOV/136-59-11-19/26

5.1310, 18.3100

AUTHORS: Penkina, I.S., Urubkova, E.I., Deshevykh, I.G. and Fedorova, K.L.

TITLE: Semi-Industrial Tests on High Purity Zinc Production

PERIODICAL: Tsvetnyye metally, 1959, Nr 11, pp78-79 (USSR)

ABSTRACT: Experiments have been carried out by VNIITsvetmet on a pilot plant of the "Ukrtsink" establishment in order to test a method of electrolytic refining of ingot zinc in a zinc sulphate electrolyte, purifying the latter in two stages. The electrolyte was kept cool by aluminium pipes covered with bakelite varnish. The cathode metal was deposited on to "TsV" zinc cathodes, 320 x 400 mm; the cathodes were first ground and polished until a mirror finish was obtained. After this treatment their thickness was 5 mm. "TsO" zinc anodes, 27 kg in weight, were cast in special cast iron moulds. These anodes were placed in special cells in the bath which were covered with a double layer of perchlorvinyl fabric. The original electrolyte was made by two methods with a two-stage purification:

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66301

SOV/136-59-11-19/26

Semi-Industrial Tests on High Purity Zinc Production

1) by dissolving acid sulphate "KhCh" zinc salt in distilled water; 2) by dissolving metallic "TsO" zinc filings in sulphuric acid solution. The zinc concentration in the electrolyte was not less than 97 to 100 g/l. The following were used for the purification of the electrolyte: zinc dust from the Beloyskiy Plant, dimethyl glyoxime "ChDA" in the form of a 1% solution, diethyl dithiocarbamate as a 3% solution, and the activated charcoal "KAD". Electrolysis was carried out under the following conditions: current density - 800 to 600 A/m^2, rate of circulation - 38 to 61 m^3/ton of cathode zinc, duration of electrolysis - 5 to 10 hours. The purity of the zinc obtained at the cathode was 99.9998. The following conditions have been found to give the best results in the pilot plant operating at present:

Card 2/3

PENKINA, N. P.

Science

Study of anomalous dispersions in metal vapors. Pod red. S. E. Frisha, s primechaniiami. Leningrad, Izd-vo Akademii anuk SSSR, 1951.

9. Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

ZOLOTUKHIN, G.Ye., otv. red.; PENKINA, N.V., red.

[Spectroscopy; methods and applications] Spektroskopiia; metody i primenenie. Moskva, Izd-vo "Nauka," 1964. 213 p. (MIRA 17:6)

1. Sibirskoye soveshchaniye po spektroskopii. 1st, Kemerovo, 1962.

GUROV, K.P.; LEKSINA, I.Ye.; PENKINA, N.V.

Calculating the electron characteristics of metals on the basis of measurements of their optical constants. Zhur. eksp. i teor. fiz. 43 no.5:1957-1963 N '62. (MIRA 15:12)

1. Institut metallurgii imeni A.A. Baykova.
(Optical measurments)
(Free electron theory of metals)

ACC NR: AP6033053 (A) SOURCE CODE: UR/0126/66/022/002/0264/0267

AUTHOR: Leksina, I. Ye.; Penkina, N. V.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Optical properties of dilute tungsten-rhenium solid solutions

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 2, 1966, 264-267

TOPIC TAGS: optic property, solid solution, tungsten, rhenium, x ray analysis

ABSTRACT: The authors study the optical constants (index of refraction and absorption coefficient) in dilute solid solutions of tungsten and rhenium with rhenium concentration approaching 1.6 at.% in the 0.5-8.0 μ spectral region. A table is given showing the composition of the specimens tested. 99.97% pure VChDK tungsten powder and 99.98% pure (GOST 88-59) rhenium powder were used for making the specimens. The samples were hydraulically pressed, degassed and sintered at 1200°C in a $5 \cdot 10^{-6}$ mm Hg vacuum. As a final step, the specimens were melted in an arc furnace in an argon atmosphere. In order to ensure homogeneity and relieve stress, the specimens were annealed in a vacuum at 1500°C for 15 hours. Some of the specimens were subjected to local x-ray analysis to determine rhenium content. This analysis showed that rhenium was uniformly distributed throughout the specimens. An additional analysis was carried out to determine gas content in the specimens. The results of this analysis

Card 1/2 UDC: 546.3-19'78'719:535

ACC NR: AP6033053

showed that the specimens contained 0.003% oxygen and 0.02% nitrogen. The Drude method was used for measuring the optical constants in the 0.49-1.0 μ spectral region and the Beattie and Conn method was used for measuring these constants in the 1.5-8.0 μ region. Four sets of measurements were taken and the values for the refractive indices and absorption coefficients were averaged. The average errors in determining the index of refraction and absorption coefficient in the 0.5-1.0 μ spectral region were 8 and 5% respectively, and 15 and 6% in the 1.5-8.0 μ region. The results of the experiments show that tungsten has a wide absorption band encompassing the visible and infrared regions of the spectrum up to 4 μ. This band, though somewhat deformed, was present throughout the entire series of experiments on tungsten-rhenium alloys. A diagram is given showing the long wave absorption edge for all specimens. These data show that increasing rhenium concentration shifts the edge of the band into the long wave region. Variation in the location of the edge of the band is approximately 0.1 ev with the addition of 1 at.% of rhenium. For the case of 6-7 μ waves, where optical properties are determined by electron conductivity and the contribution from quantum absorption is small, conduction electron concentration was calculated by using the normal skin effect formula. It was found that the concentration of conduction electrons in W-Re solid solutions is a constant $1.3\text{-}1.4 \cdot 10^{22}$ el/cm^2 for rhenium concentrations up to 1.6 at.%. Orig. art. has: 1 figure, 2 tables.

SUB CODE: 11/ 20/ SUBM DATE: 07Feb66/ ORIG REF: 003/ OTH REF: 001

Card 2/2

PENKINA, N.V.

SOV/48-23-9-25/57

24(7), 9(7)
AUTHORS: Sukhenko, K. A., Kolesnyye, K. A., Metelina, L. D., Tishin, I. G., Penkina, N. V., Maksimov, B. G.

TITLE: The Analysis of Light and Refractory Alloys and Steels for Photoelectrical Methods

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, pp 1107 - 1110 (USSR)

ABSTRACT: As in photoelectric stylometers only a successive determination of elements is possible, the authors worked out a method of analysis permitting the determination of several elements. In the first part of the present paper the results obtained by the analysis of nickel alloys are dealt with. Table 1 shows the experimental conditions (amperage, spark-gap, material of the lower electrode, and number of measurements), which were carried out in case of several series of measurements, which were carried out on different days. Parallel shifts and slight variations of the inclination of the calibration lines could be observed, the causes of which could not be explained. Further, an influence exercised by "third" elements was found to exist. In the second part aluminum- and magnesium alloys are described. Table 2

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shows the lines which were measured, as well as the concentration interval of the alloy elements, and the error in determination. Investigations were carried out of aluminum alloys with respect to magnesium, zinc, silicon, and copper, as well as of magnesium alloys to aluminum. The diagrams for the determination of silicon in the alloys A1-3, A1-5 and duralumin are shifted only little. The third part deals with the analysis of steels. These steels were investigated with regard to content of tungsten, chromium, manganese, and silicon, and table 3 gives the measured lines in A, the width of the gap, the condenstration intervals, and the errors in determination. It is found that, in the experiments carried out, no re-sharpening of the samples was necessary after the determination of an element and that a considerable shortening of the time needed for the analyses was possible. The last part deals with the application of photoelectrical attachments in the spectrograph ISP-22 for the analysis of aluminum- and magnesium alloys. Here, the emission within the range of wavelengths of 2900-2000 A is recorded by means of a Geiger-Mueller counter. An iro generator of the type IG-1, the spark generator of the type

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IG-2, and a generator with electronically controlled ignition developed at the Fizicheskiy institut P. N. Lebedeva AN SSSR (Institute of Physics named P. N. Lebedev of the AS USSR)were used as a light source. The results obtained by experiments carried out by means of the IG-2 generator and the electronically controlled generator are shown in table 4 together with the general experimental conditions. There are 2 figures, 4 tables and 5 Soviet references.

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PENKINA, N.V.

MOISEYEVA, K.A.; PENKINA, N.V.; TINDO, I.P.

Photoelectric attachement to the ISP-22 spectrograph and its use for aluminum alloy analysis. Zav. lab. 23 no.5:625-627 '57. (MLRA 10:8)
(Spectrograph--Attachments)
(Photoelectric measurements)

24.3000

S/126/62/013/005/031/031
E073/E535

AUTHORS: Leksina, I.Ye. and Penkina, N.V.

TITLE: Optical properties of diluted solid solutions of rhodium-platinum

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.5, 1962, 799-800

TEXT: The optical constants in the visible range of the spectrum of solid solutions of platinum in rhodium with the following platinum concentrations were measured: 0.01 (Rh in the initial state), 0.03, 0.05, 0.1, 0.2, 0.4, 0.6, 0.8, 1.5 at.%. The initial purities were 99.95% for Rh and 99.99% for Pt. The specimens were levitation melted in an atmosphere of purified helium and then vacuum annealed ($5 \cdot 10^{-6}$ mm Hg) for 24 hours at 1100°C. The surface of the specimens was mechanically polished. Since mechanical polishing distorts the surface layer, the data obtained are not the real absolute values of the optical constants but they do permit judging the relative changes in the optical constants as a function of the content of admixtures. Five series of tests were made and for each series the surfaces were

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prepared afresh. The mean square error in determining n and x was about 8 and 6%, respectively. The following results were obtained (each value being the average of five series of measurements):

λ, мк μ	0,44		0,49		0,55		0,58		0,66	
At. % Pt	n	x	n	x	n	x	n	x	n	x
0,01	0,81	3,89	0,98	4,62	1,23	4,85	1,34	4,93	1,40	5,35
0,03	0,62	3,66	1,01	4,39	1,08	4,71	1,23	4,72	1,21	5,23
0,05	1,05	4,63	1,10	4,86	1,40	5,27	1,62	5,39	1,62	6,03
0,10	0,94	4,48	1,03	5,03	1,33	5,07	1,54	5,12	1,49	5,82
0,20	1,01	4,39	0,98	4,22	1,25	4,71	1,28	4,74	1,42	5,63
0,40	0,82	4,13	0,91	4,34	1,12	4,69	1,05	4,73	1,45	5,50
0,60	0,76	4,04	0,99	4,40	1,22	4,97	1,15	5,01	1,33	5,60
0,80	0,75	3,89	0,93	4,48	1,14	4,79	1,13	4,77	1,18	5,55
1,50	0,86	4,26	0,94	4,59	1,11	5,00	1,12	5,15	1,32	6,00

LEKSINA, I. Ye.; PENKINA, N.V.

Optical properties of diluted palladium-silver solid solutions.
Fiz. met. i metalloved 11 no.3:470-471 Mr '61. (MIRA 14:3)

1. Institut metallurgii im. A. A. Baykova.
(Palladium-silver alloys—Optical properties)

PENKINA, O.M.; BOGDANOVA, O.V.

Removal of cyclopentadiene from iso-pentane in the presence of aluminum-silicon catalysts. Khim. prom. 42 no.9:658-660 S '65. (MIRA 18:9)

ACC NR: AP6032624 SOURCE CODE: UR/0126/66/022/003/0464/0465

AUTHOR: Lekuina, I. Ye.; Penkina, N. V.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Optical properties of diluted solid Ag-Au solutions

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 3, 1966, 464-465

TOPIC TAGS: optic property, solid solution, absorption coefficient, refractive index

ABSTRACT: The authors studied transition metals and optical constants of diluted solid solutions based on a nontransition metal. The optical constants of silver and its alloys with small quantities of gold were measured on wavelengths of 0.44, 0.49, 0.55, 0.60, 0.65, 0.70, 0.75, 0.80, 0.85, 0.90, 0.95 and 1.00 μ. Solid solutions of gold and silver were studied at 0, 0.05, 0.1, 0.21, 0.3, 0.43, 0.5, 0.59, 0.79, 0.98 and 1.25 at.% Au concentration. The silver used was 99.99% pure. The specimens for the study were melted in a furnace using graphite crucibles and were continuously stirred with a graphite rod. In order to ensure high quality, the specimens were remelted in a high frequency furnace and annealed in a vacuum of $5 \cdot 10^{-6}$ mm Hg at 750°C for 24 hours. Optical constants were measured by the Drude method. The results show an index of refraction for 0.1% gold concentration which is the same as that for pure silver (within an experimental error limit of 30%) although n is a monotonic function

Card 1/2 UDC: 535.3:546.3-19'57'59

ACC NR: AP6032624

of gold concentration in silver. No monotonic relationship was observed between the absorption coefficient and gold concentration in silver. A formula given in the literature was used for calculating effective concentration of conductivity electrons for all pure silver specimens. A graph was plotted for these values and it can be seen that conductivity electron concentration increases smoothly initially from $3.4 \cdot 10^{26}$ at 0.44 μ up to $5.1 \cdot 10^{22}$ at 0.7 μ and evens out from 0.7 to 1.0 with a ±6% degree of error. The effective concentration of conductivity electrons is the same for all specimens studied and is $4\text{-}4.5 \cdot 10^{22}$ el/cm^3. The results of the experiments do not indicate a monotonic relationship between the index of refraction, absorption coefficient or effective concentration of conductivity electrons and impurity concentration in the Au-Ag system. These results must be interpreted within the limits of experimental error. The authors thank K. P. Gurov for his interest in their work. Orig. art. has: 1 table, 1 formula.

SUB CODE: 20/ SUBM DATE: 18Dec65/ ORIG REF: 005/ OTH REF: 001

Card 2/2

L 10775-66 EWT(m)/T/EWP(j) WE/RM
ACC NR: AP6000454 SOURCE CODE: UR/0064/65/000/009/0018/0020

AUTHOR: Penkina, O. M.; Bogdanova, O. V. 44,55

ORG: None

TITLE: Removal of cyclopentadiene impurities from isopentane in the presence of alumina-silica catalysts 44,55

SOURCE: Khimicheskaya promyshlennost', no. 9, 1965, 18-20

TOPIC TAGS: cyclopentadiene, isopentane, alumina, silica, industrial catalyst

ABSTRACT: The possibility of using alumina-silica catalysts for the removal of cyclopentadiene impurities from isopentane was studied on an isopentane distillate containing 98.3 wt. % isopentane, 0.03 wt. % cyclopentadiene, and 0.0003 wt. % sulfur compounds if subjected to preliminary hydrofining, and 98.8 wt. % isopentane, 0.086 wt. % cyclopentadiene, and 0.0032 wt. % sulfur compounds if not subjected to hydrofining. The effect of temperature, feed space velocity of isopentane, and sulfur compounds on the degree of removal of cyclopentadiene was studied in the 20—300C range. About 200C was found to be the optimum temperature, and 0.5—1.5 hr^{-1} was the optimum space velocity. At high temperatures (above 300C), the poisoning effect of sulfur compounds was found to deactivate the

Card 1/2 UDC: 661.715.25:66.067.85.069.84:547.514.72

L 10775-66
ACC NR: AP6000454

catalyst almost completely. After three regeneration cycles, the catalyst yielded the same results as when it was fresh; i.e., its activity was completely regenerated from one cycle to the next. The method of removal of cyclopentadiene from isopentane was carried out on a pilot-plant scale, and the final cyclopentadiene content of isopentane was 0.0002--0.0003 wt. %. Orig. art. has: 4 tables.

SUB CODE: 07 / SUBM DATE: none

Card 2/2

AL'TSHUL', S.D., inzh.; GIL'MAN, G.I., inzh.; PEN'KINA, T.V., inzh.

Algorithm for the calculation of engineering and economic indices of a 300 Mw. block. Energ. i elektrotekh. prom. no.4:6-8 O-D '65. (MIRA 19:1)

KATUNIN, V.Kh.; PENKINA, V.I.

Isomerization of maleic acid in the presence of thiourea. Zhur. prikl. khim. 36 no.10:2261-2265 O '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.

17(4) SOV/20-128-1-50/58

AUTHORS: Razumova, L. L., Lemazhikhin, B. K., Lebedev, L. A., Pen'kina, V. S.

TITLE: Some Differences Observed in the X-Ray Study of Keratin From Feathers

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 186-189 (USSR)

ABSTRACT: The macro structure of coverts and supporting feathers (wing-feathers and rudder-feathers of the tail) shows certain differences depending on the function of the concerned feathers. The kind of flight also has a certain influence on the structure. The authors tried to answer the question whether the function of the feathers also has an influence on the molecular structure. Characteristic features of the molecular structure can be investigated by means of an X-ray diffraction method. X-ray photographs made (with a sufficient solvent power) of the keratin of feathers (Fig 1) are characterized by clearness and richness of reflexes unusual for fibril albumins. The authors succeeded in getting some information regarding the dependence of the keratin structure on the existence of amino acids and

Card 1/3

Some Differences Observed in the X-Ray Study of Keratin From Feathers

also with regard to the role of S-S and hydrogen compounds in the structural packing. X-Ray examinations of three test series were carried out by means of X-ray cameras with collimator with a diameter of 0.1 mm. A micro tube for focusing of the Institut biofiziki AN SSSR (Institute of Biophysics AS USSR) was used. The X-ray was directed perpendicularly on the surface of the feathers. The investigations showed that the structure of wing feathers on non-flying birds (ostrich) is the same as that of coverts of flying birds. It is not as orderly as the structure of the wing feathers strained by flying. This fact proves a connection between the molecular structure of feathers and their function. A dependence of the molecular structure on the kind of flight was not found. The authors thank the staff members of the Zoologicheskiy muzey Moskovskogo gosudarstvennogo universiteta (Zoological Museum of the Moscow State University), Professor N. A. Gladkov, A. M. Sudilovskaya, M. V. Vasil'yeva, the staff members of the Institut morfologii zhivotnykh (Institute of the Morphology of Animals), Professor G. S. Shestakov, T. L. Borodulin, and the staff members of Moskovskiy zoopark (Moscow Zoological

Gardens), R. I. Afonskaya, M. P. Kagayev, for their assistance in selecting the specimens. There are 3 figures and 7 references.

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR (Institute of Biological Physics of the Academy of Sciences, USSR)

PRESENTED: April 23, 1959, by V. N. Kondrat'yev, Academician

SUBMITTED: April 22, 1959

Pen'kina, V. S.

USSR/Nuclear Physics - Fission FD-3248

Card 1/2 Pub. 146 - 7/44

Author : Gol'danskiy, V. I.; Pen'kina, V. S.; Tarumov, E. Z.

Title : Fission of heavy nuclei by high-energy neutrons

Periodical : Zhur. eksp. i teor. fiz., 29, No 6(12), Dec 1955, 778-789

Abstract : Exposition of the results of an investigation of the fission of various heavy nuclei in the region of atomic numbers Z = 74-92 by neutrons with nominal energies 120 and 380 Mev. The experimental portion was carried out in the course of 1950-1951. The authors evaluate the thresholds of fission which is connected with the preliminary emission by the fissioning nuclei of neutrons. This evaluation is based upon a comparison of the binding energy and the critical energy of fission. They also evaluate the average number of neutrons which are emitted during fission of heavy nuclei. The mentioned experiments were conducted on the synchrocyclotron of the Institute of Nuclear Problems, Academy of Sciences USSR, in the case of U-235 and U-238 and others (Bi, Th, Pb, Tl, Au, Pt, W). Twenty-

seven references: e.g. K. O. Oganesyan, Otchet In-ta yadernykh problem AN SSSR [Reports of the Institute of Nuclear Problems, Acad. Sci. USSR], 1953; V. P. Dzhelepov, B. M. Golvin, Yu. M. Kazarinov, Otchet In-ta yad. probl. AN SSSR, 1950; etc.

Institution : Institute of Chemical Physics, Academy of Sciences USSR

Submitted : July 11, 1955

PEN'KINA, V. S.

USSR/Physics - Nuclear fission

Card 1/1 Pub. 22 - 13/47

Authors : Goldanskiy, V. I.; Tarumov, E. Z.; and Pen'kina, V. S.

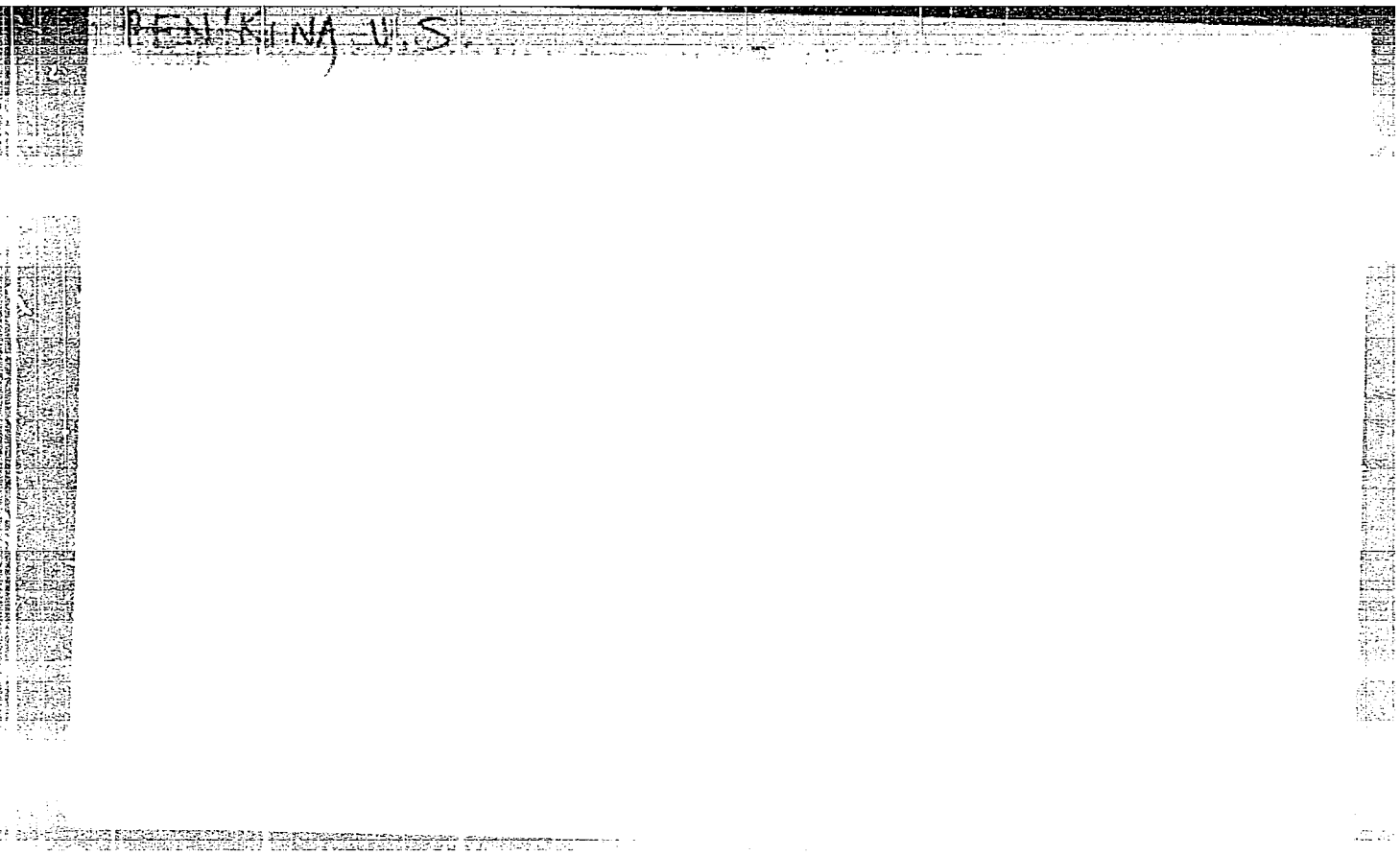
Title : Fission of heavy nuclei with high energy neutrons

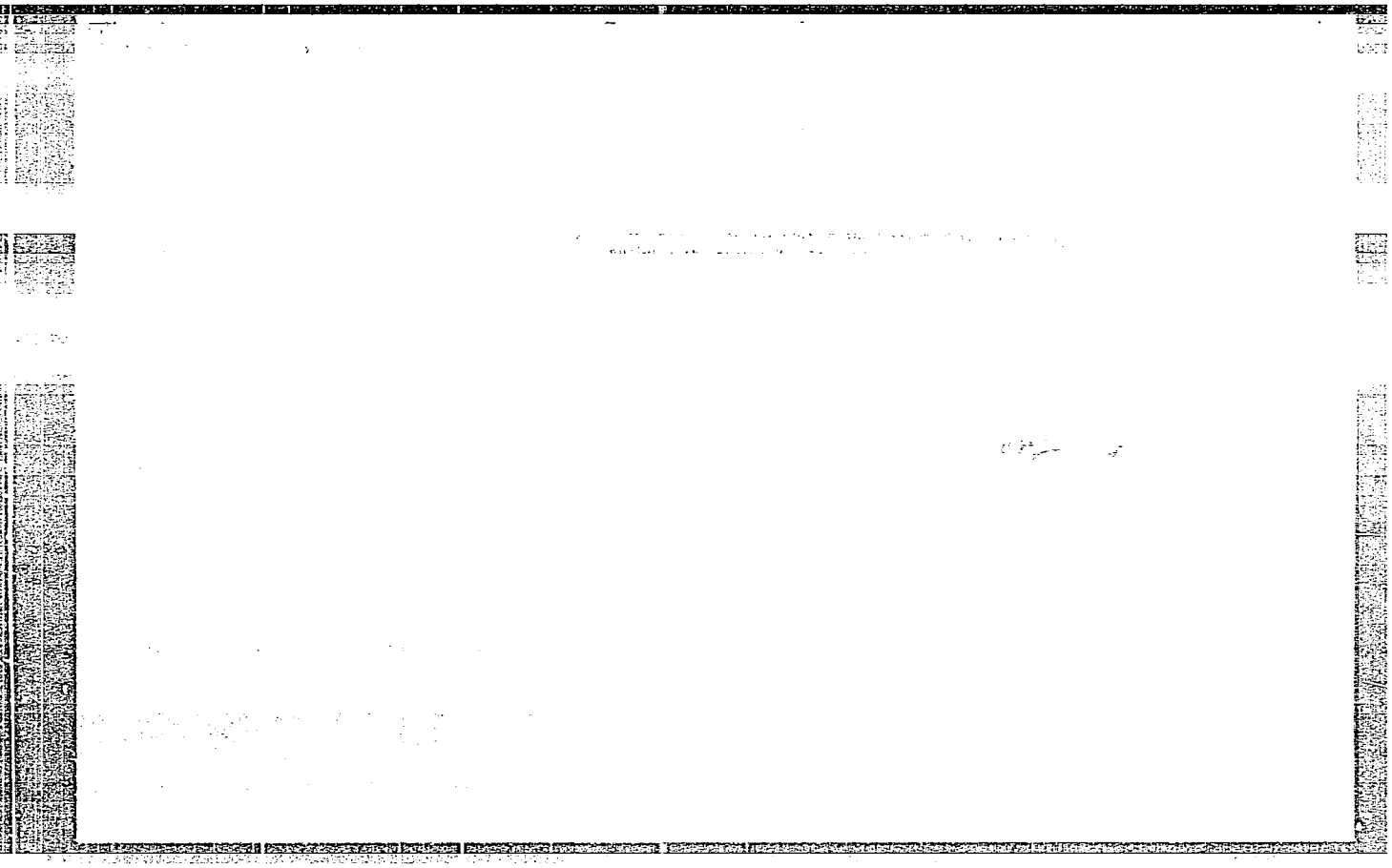
Periodical : Dok. AN SSSR 101/6, 1027 - 1030, Apr. 21, 1955

Abstract : Experiments conducted with the synchrotrone of the Acad. of Sc., USSR, Institute of Nuclear Problems are described. The experiments were conducted for the purpose of establishing some data concerning the fission of atomic nuclei by neutrons of various energies. The number of neutrons participated in the nuclear fission at various energies, and the cross section of the fission reaction were determined. The experiments were conducted with nuclei of the following atoms: U^{235}, U^{238}, Th, Pb, Tl, Pt, and W. Results of the experiments are in good agreement with the theory of Geylikman. Eleven references: 6 USSR, and 5 USA (1947-1953). Tables; graphs.

Institution : Acad. of Sc., USSR, Institute of Physical Chemistry

Presented by: Academician A. I. Alikhanov, January 21, 1955





Pen'kina, V. S.

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Authors : Gol'danskiy, V. I.; Koval'skiy, A. A.; Pen'kina, V. S.; and Tarumov, E. Z.

Title : Inelastic nuclear cross-sections for 120 and 380 Mev neutrons

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Abstract : Experiments are described which were conducted to justify the application of the so-called "optical model" for the determination of inelastic nuclear cross sections of high-energy neutrons. These experiments lead to some changes in the parameters of the optical model. Eleven references: 3 USSR, 8 USA (1949-1954). Table; graphs.

Institution : Acad. of Sci., USSR, Institute of Chemical Physics

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